```
   1  atgagcggca gagtcggcga tctgagcccc aggcagaagg aggcattggc caagccagaa
  61  gcttcgacct gcagaagtcg gaggccatgc tccggaagca tgtggagttc cgaaagcaaa
 121  aggacattga caacatcatt agcatggcag cctccagagg tgatccaaca gtatctgtca
 181  gggggtatgt gtggctatga cctggatggc tgcccagtct ggtacgacat aattggacct
 241  ctggatgcca agggtctgct gttctcagcc tccaaacagg acctgctgag gaccaagatg
 301  cgggagtgtg agctgcttct gcaagagtgt gcccaccaga ccacaaagtt ggggaggaag
 361  gtggagacca tcaccataat ttatgactgc gaggggcttg gcctcaagca tctctggaag
 421  cctgctgtgg aggcctatgg agagtttctc tgcatgtttg aggaaaatta tcccgaaaca
 481  ctgaagcgtc tttttgttgt taaagccccc aaactgtttc ctgtggccta taacctcatc
 541  aaaccccttcc tgagtgagga cactcgtaag aagatcatgg tcctgggagc aaattggaag
 601  gaggttttac tgaaacatat cagccctgac caggtgcctg tggagtatgg gggcaccatg
 661  actgaccctg atggaaaccc caagtgcaaa tccaagatca actacggggg tgacatcccc
 721  aggaagtatt atgtgcgaga ccaggtgaaa cagcagtatg aacacagcgt gcagatttcc
 781  cgtggctcct cccaccaagt ggagtatgag atcctcttcc ctggctgtgt cctcaggtgg
 841  cagtttatgt cagatggagc ggatgttggt tttgggattt tcctgaagac caagatggga
 901  gagaggcagc gggcagggga gatgacagag gtgctgccca accagaggta caactcccac
 961  ctggtccctg aagatgggac cctcacctgc agtgatcctg gcatctatgt cctgcggttt
1021 gacaacacct acagcttcat tcatgccaag aaggtcaatt tcactgtgga ggtcctgctt
1081 ccagacaaag cctcagaaga gaagatgaaa cagctggggg caggcacccc gaaataa
```

(SEQ ID NO: 1)

Fig. 1

MSGRVGDLSPRQKEALAKPEASTCRSRRPCSGSMWSSESKRTLTTSLAWQPPEVIQQYL
SGGMCGYDLDGCPVWYDIIGPLDAKGLLFSASKQDLLRTKMRECELLLQECAHQTTKLG
RKVETITIIYDCEGLGLKHLWKPAVEAYGEFLCMFEENYPETLKRLFVVKAPKLFPVAY
NLIKPFLSEDTRKKIMVLGANWKEVLLKHISPDQVPVEYGGTMTDPDGNPKCKSKINYG
GDIPRKYYVRDQVKQQYEHSVQISRGSSHQVEYEILFPGCVLRWQFMSDGADVGFGIFL
KTKMGERQRAGEMTEVLPNQRYNSHLVPEDGTLTCSDPGIYVLRFDNTYSFIHAKKVNF
TVEVLLPDKASEEKMKQLGAGTPK (SEQ ID NO: 2)

Fig. 2

```
TAP-46  ATGAGCGGCAGAGTCGGCGATCTGAGCCCCAGGCAGAAGGAGGCATTGGCCAAG
TAP-38  ATGAGCGGCAGAGTCGGCGATCTGAGCCCCAGGCAGAAGGAGGCATTGGCCAAG

TAP-46  tttcgggagaatgtccaggatgtgctgccggccctgccgaatccagatgactat
TAP-38  ----------------------------------------------------

TAP-46  tttctcctgcgttggctccgagCCAGAAGCTTCGACCTGCAGAAGTCGGAGGCC
TAP-38  ----------------------CCAGAAGCTTCGACCTGCAGAAGTCGGAGGCC

TAP-46  ATGCTCCGGAAGCATGTGGAGTTCCGAAAGCAAAAGGACATTGACAACATCATT
TAP-38  ATGCTCCGGAAGCATGTGGAGTTCCGAAAGCAAAAGGACATTGACAACATCATT

TAP-46  AGCT-GGCAGCCTCCAGAGGTGATCCAACAGTATCTGTCAGGGGGTATGTGTGG
TAP-38  AGCATGGCAGCCTCCAGAGGTGATCCAACAGTATCTGTCAGGGGGTATGTGTGG

TAP-46  (SEQ ID NO: 3)
```

Fig. 3

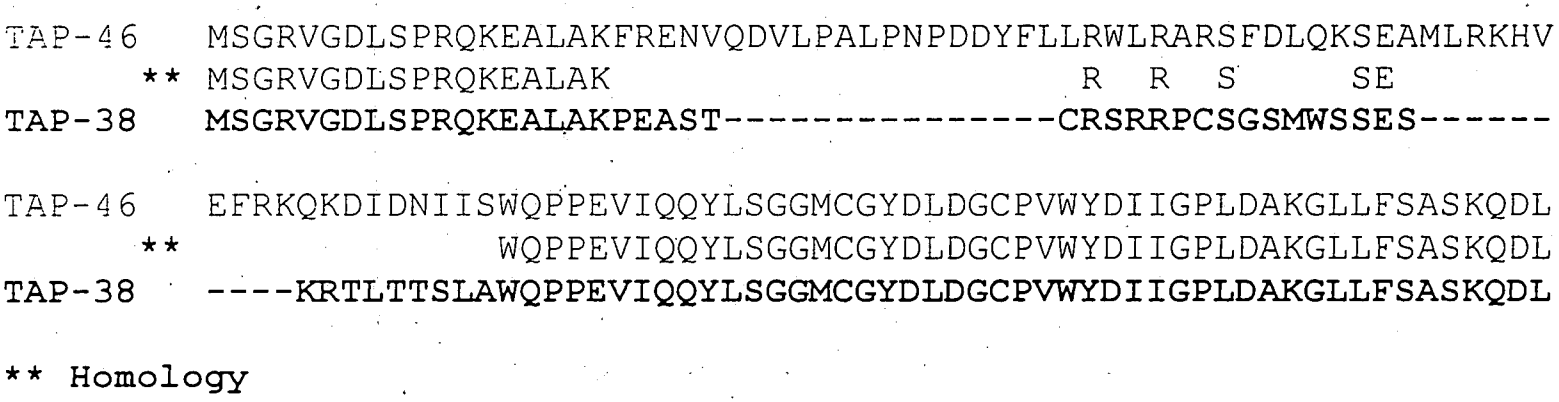

TAP-46 MSGRVGDLSPRQKEALAKFRENVQDVLPALPNPDDYFLLRWLRARSFDLQKSEAMLRKHV
** MSGRVGDLSPRQKEALAK R R S SE
TAP-38 MSGRVGDLSPRQKEALAKPEAST----------CRSRRPCSGSMWSSES------
TAP-46 EFRKQKDIDNIISWQPPEVIQQYLSGGMCGYDLDGCPVWYDIIGPLDAKGLLFSASKQDL
** WQPPEVIQQYLSGGMCGYDLDGCPVWYDIIGPLDAKGLLFSASKQDL
TAP-38 ----KRTLTTSLAWQPPEVIQQYLSGGMCGYDLDGCPVWYDIIGPLDAKGLLFSASKQDL
** Homology

Fig. 4

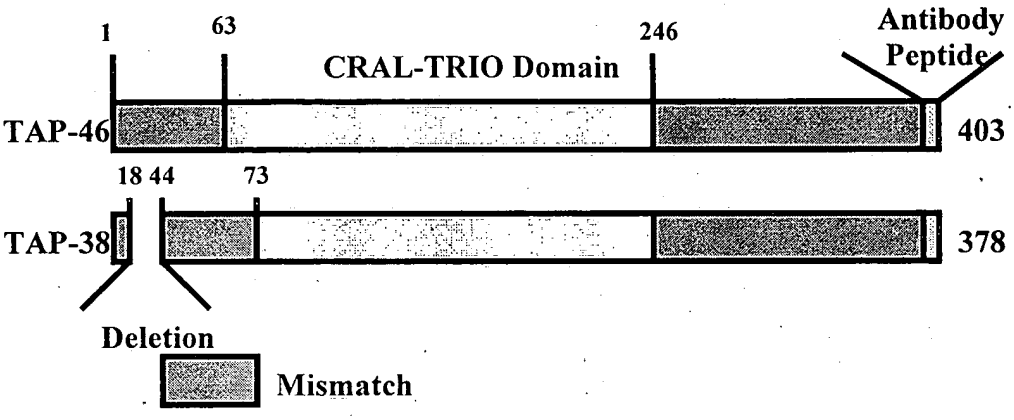

1
63
246
Antibody
Peptide
CRAL-TRIO Domain
TAP-46
403
18 44
73
TAP-38
378
Deletion
Mismatch

Fig. 5

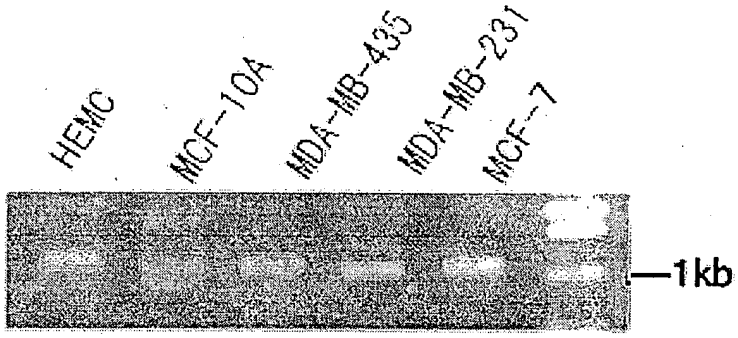


Fig. 6

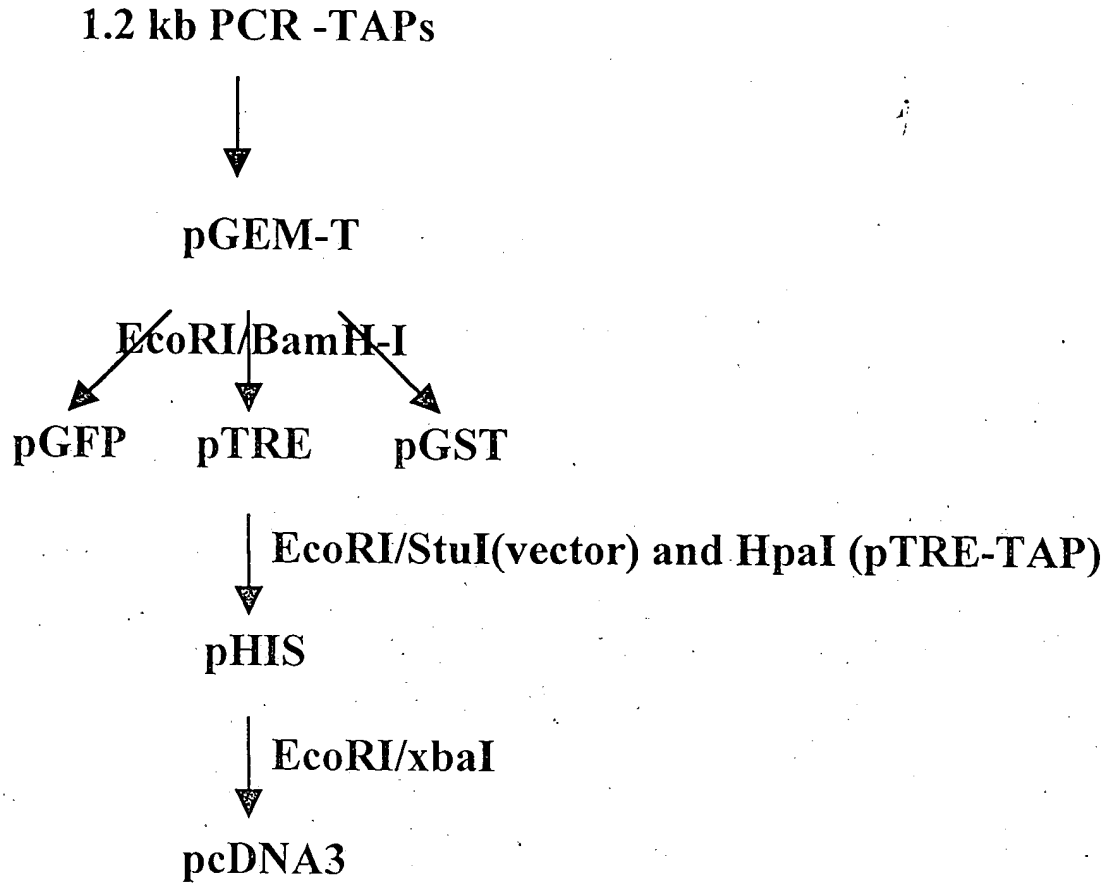

1.2 kb PCR -TAPs
pGEM-T
EcoRI/BamH-I
pGFP
pTRE
pGST
EcoRI/StuI(vector) and HpaI (pTRE-TAP)
pHIS
EcoRI/xbaI
pcDNA3

Fig. 7

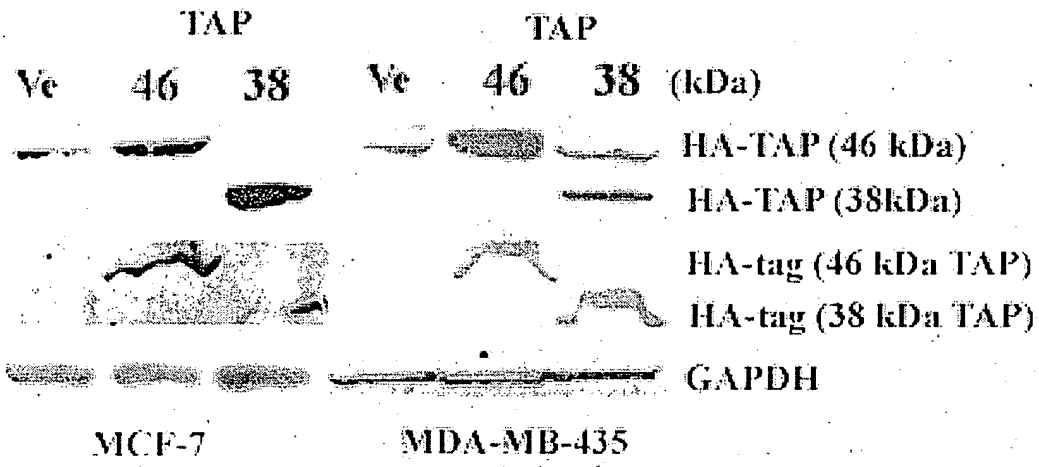

TAP
TAP
Ve
46
38
Ve
46
38
(kDa)
HA-TAP (46 kDa)
HA-TAP (38kDa)
HA-tag (46 kDa TAP)
HA-tag (38 kDa TAP)
GAPDH
MCF-7
MDA-MB-435

Fig. 8

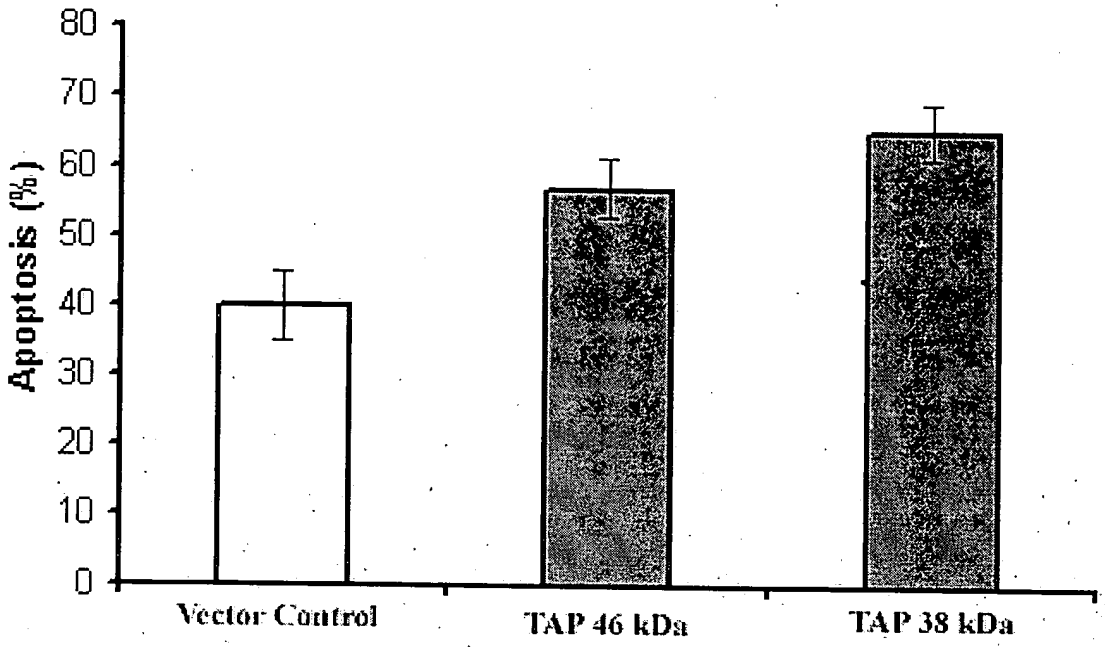

80
70
60
50
40
30
20
10
0
Apoptosis (%)
Vector Control
TAP 46 kDa
TAP 38 kDa

Fig. 9

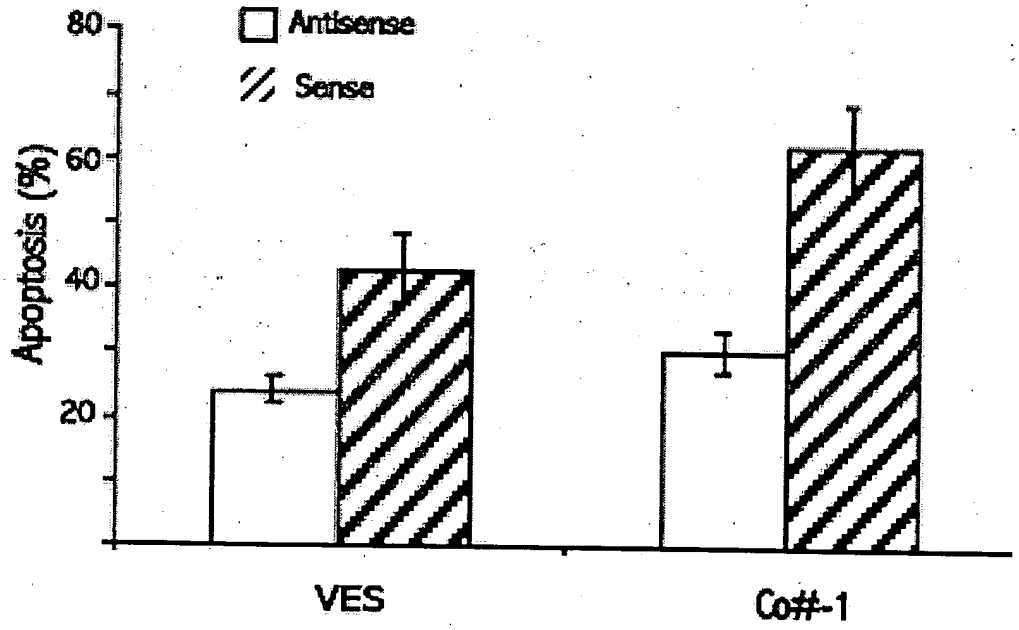

80
60
40
20
Apoptosis (%)
Antisense
Sense
VES
Co#-1

Fig. 10

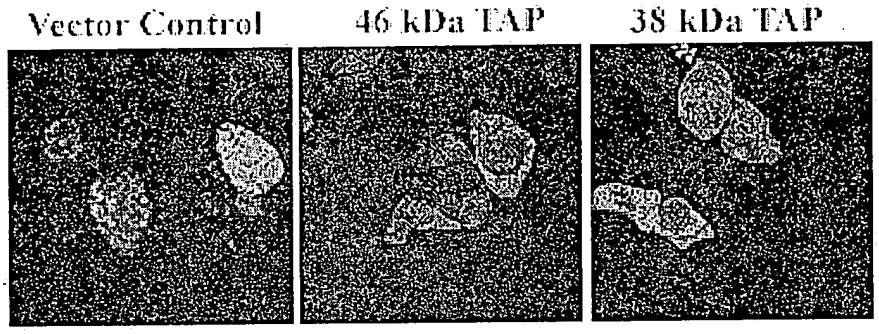

Vector Control
46 kDa TAP
38 kDa TAP

Fig. 11

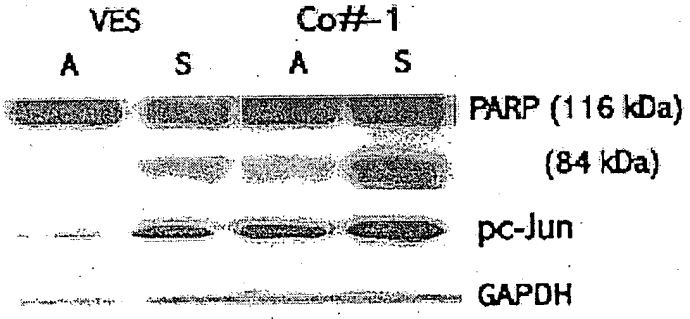

VES
Co#-1
A
S
A
S
PARP (116 kDa)
(84 kDa)
pc-Jun
GAPDH

Fig. 12

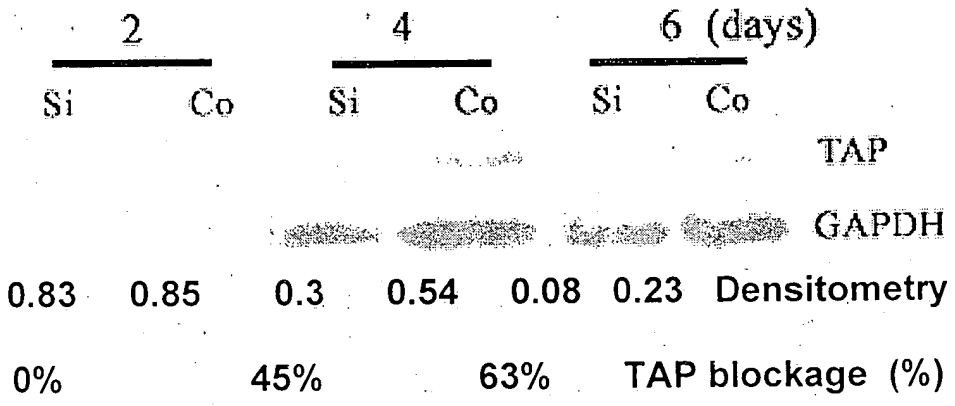

2
4
6 (days)
Si
Co
Si
Co
Si
Co
TAP
GAPDH
0.83
0.85
0.3
0.54
0.08
0.23
Densitometry
0%
45%
63%
TAP blockage (%)

Fig. 13A

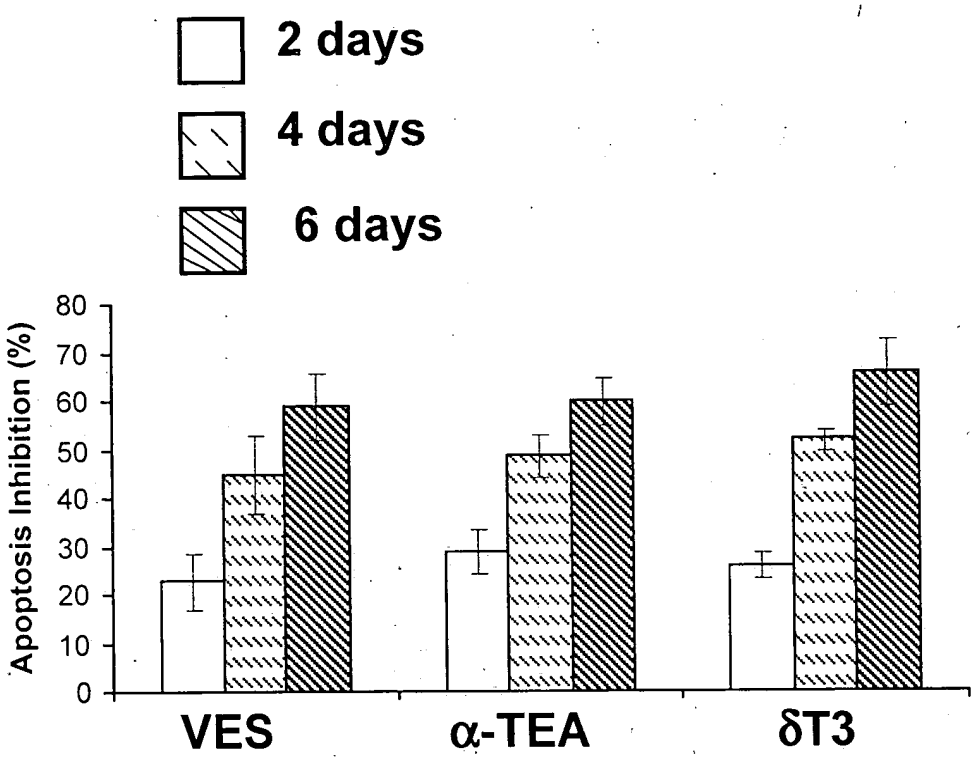

2 days
4 days
6 days
Apoptosis Inhibition (%)
80
70
60
50
40
30
20
10
0
VES
α-TEA
δT3

Fig. 13B

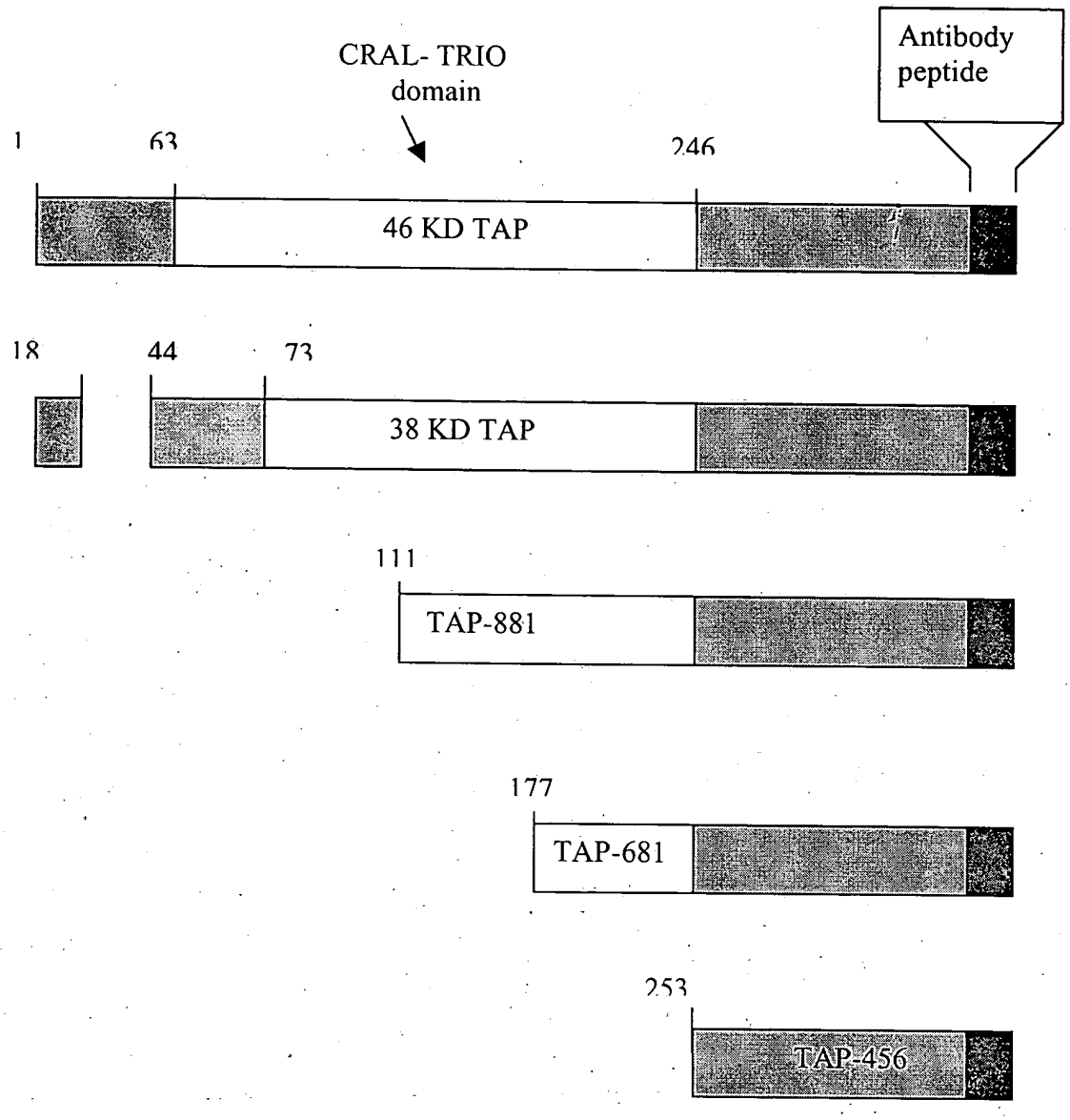

CRAL- TRIO
domain
Antibody
peptide
1
63
246
46 KD TAP
18
44
73
38 KD TAP
111
TAP-881
177
TAP-681
253
TAP-456

Fig. 14

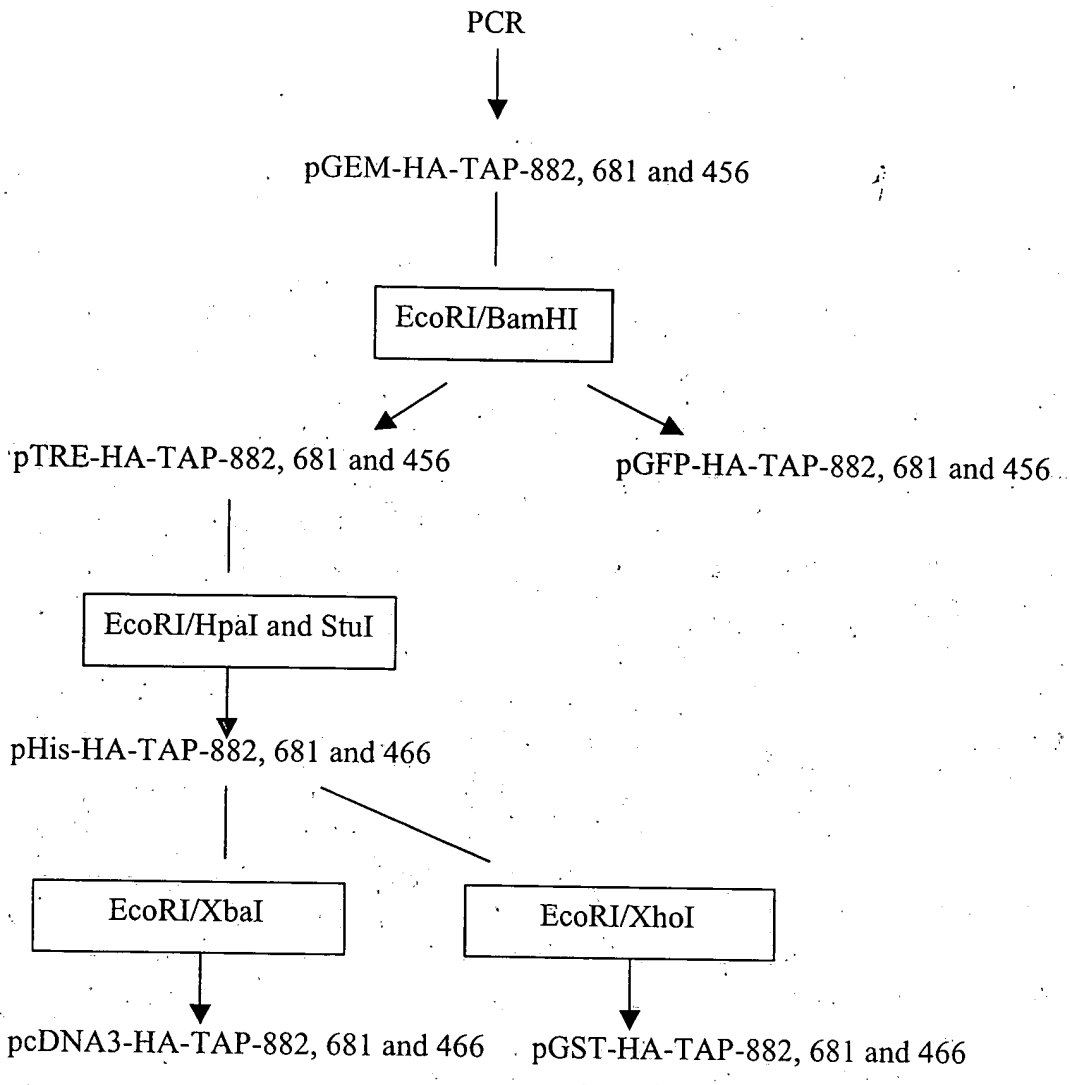
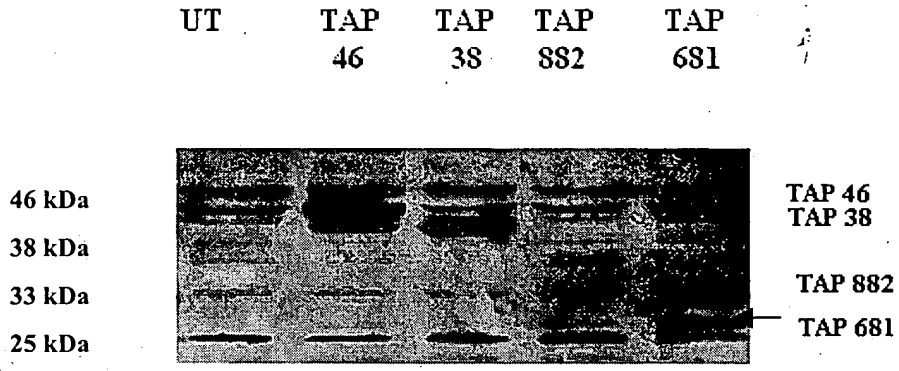

PCR
pGEM-HA-TAP-882, 681 and 456
EcoRI/BamHI
pTRE-HA-TAP-882, 681 and 456
pGFP-HA-TAP-882, 681 and 456
EcoRI/HpaI and StuI
pHis-HA-TAP-882, 681 and 466
EcoRI/XbaI
EcoRI/XhoI
pcDNA3-HA-TAP-882, 681 and 466
pGST-HA-TAP-882, 681 and 466

Fig. 15

MDA-MB-435 cells



MCF-7 cells

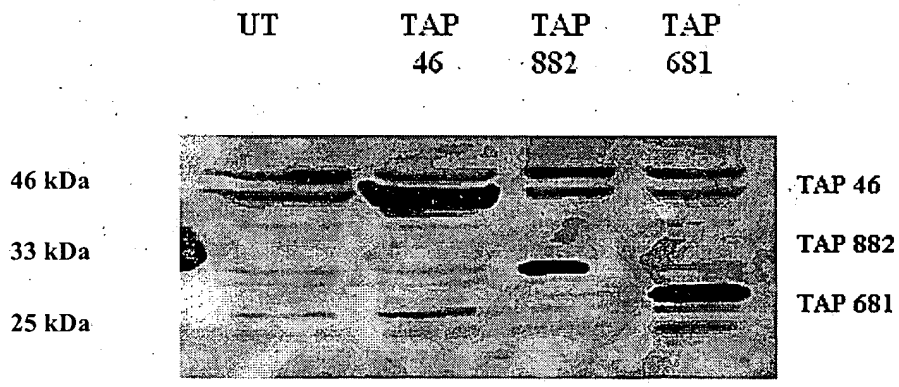


Fig. 16